



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

233 Peachtree Street Ste. 600
Atlanta, GA 30303

WARNING LETTER

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

July 25, 2012

Mr. Terry Hurlburt
Senior Vice President of Operations
Enterprise Products Operating LLC
1100 Louisiana Street
Houston, TX 77002

CPF 2-2012-5008W

Dear Mr. Hurlburt:

From June 14 to October 22, 2010, and from April 25 - 27, 2011, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA) inspected Enterprise Products Operating LLC^a (Enterprise) Integrity Management Program (IMP) and pipeline facilities in Texas, Louisiana, Arkansas, Tennessee, Missouri, Indiana, Kentucky, Illinois, Ohio, and Pennsylvania, pursuant to Chapter 601 of 49 United States Code.

1. § 195.452 Pipeline integrity management in high consequence areas.

... (f) What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(1) A process for identifying which pipeline segments could affect a high consequence area;

Enterprise did not adequately identify which pipeline segments could affect a high consequence area (HCA) because it did not conduct an HCA identification or re-analysis, in a timely manner, subsequent to changing the product transported from McRae to West Memphis in Line P74.

^a TE Products Pipeline, LLC (TEPPCO) was the operator of record at the initiation of the inspection in June 2010. Effective August 17, 2010, TE Products Pipeline, LLC under operator identification number (OPID number) 19237 was legally changed to Enterprise Products Operating LLC, under OPID number of 31618.

On November 12, 2009, Enterprise changed the product transported in its Line P74 from a highly volatile liquid (HVL) to a non-HVL. HVL and non-HVL products can have significantly different flow and dispersion characteristics when released from a pipeline. At the time of the PHMSA field inspection of Line P74 on October 21, 2010, Enterprise had previously identified "could-affect HCA segments" on the McRae to West Memphis Line P74 that were based on dispersion characteristics of the previously transported HVLs (propane and butane). While Enterprise began non-HVL flow in Line P74 on November 12, 2009, it had not performed overland spread and water transport analyses to determine if the change in product spread characteristics resulted in new "could-affect HCA segments."

Additionally, Enterprise's Pipeline Integrity Group was aware, as early as March 23, 2009, that Line P74 was transporting non-HVLs but Enterprise had not re-scheduled or completed an HCA re-analysis prior to PHMSA's inquiries made subsequent to the October 21, 2010, field inspection. The HCA re-analysis could have taken two years or more to complete after the product was first changed in the pipeline.

2. **§ 195.452 Pipeline integrity management in high consequence areas.**

... (f) *What are the elements of an integrity management program?* **An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:**

(1) A process for identifying which pipeline segments could affect a high consequence area;

Enterprise's IMP process did not properly identify which pipeline segments could affect an HCA because it did not include an adequate analysis of the dispersion of vapors from the release of highly volatile liquids and volatile liquids.

Enterprise's process did not provide a technical justification for the identification of which pipeline segments could affect an HCA because at the time of the determination the Potential Impact Radii (PIR) for Line P2 and Line P-63 were not available. Additionally, the PIR for Line P-35 had been incorrectly changed during the process from the correct value of 5,000 feet to 3,500 feet by Enterprise's contractor during the HCA determination process. The correct PIR for each pipeline segment was necessary to identify which pipeline segments could affect a high consequence area due to a release of highly volatile liquids.

3. **§ 195.452 Pipeline integrity management in high consequence areas.**

... (f) *What are the elements of an integrity management program?* **An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An**

operator must include, at minimum, each of the following elements in its written integrity management program:

... (3) An analysis that integrates all available information about the integrity of the entire pipeline and the consequences of a failure (see paragraph (g) of this section);

Enterprise did not properly complete an analysis that integrated all available information about the integrity of its entire pipeline and the consequences of a failure as follows:

- a) The DRAS common risk model Enterprise used in its IMP to perform a minimal risk analysis relied on Enterprise's PODS database. The data input into the DRAS model from PODS, however, was not sufficient in that PODS did not have all the data required to perform the minimal risk analysis. Moreover, Enterprise was unable to retrieve the following data via its risk model *Data View* application when requested to do so by the PHMSA inspectors during the inspection.
 - P2 Mainline Coating Type - Priority 2 (previous list indicated Priority 1)
 - P40 Mainline Coating Type - Priority 2 (previous list indicated Priority 1)
 - P2 Pipe Grade - Priority 1
 - P2 ILI Technology - Priority 3 (previous list indicated Priority 1)
 - P2 ILI Date - Priority 3 (previous list indicated Priority 1)
 - Information on Ohio River Crossing on the A1/A3 lines, Lines P2 and P62 Mississippi River Crossings

The priorities shown above are from a list Enterprise provided to PHMSA on 08/27/2010. Priority 1 risk data are those elements that are essential to risk and which must be included to allow the risk model to provide the minimal risk results set.

- b) Enterprise did not use adequate and appropriate processes to input data and information into the risk analysis process. Enterprise converted from its TEPPCO Bass Trigon IAP risk model to the DRAS risk model in May 2010. During the PHMSA inspection, Enterprise determined that the data provided to the common risk model vendor (DRAS) was not read properly into the model; thus, invalidating the results. On July 22, 2010, Enterprise declared the DRAS model invalid and reverted back to the previously used TEPPCO Bass Trigon IAP model.
- c) Enterprise had incorrect data in its PODS database. Maps and drawings using PODS-extracted data indicated the following PODS data were incorrect.
 - Drawing number TEPPCO Southern - P22-PAL_003, dated 08/20/2010, incorrectly indicated the route of Line P22 as traversing under three buildings in the (HCA) area upstream of milepost 5.
 - Drawing number TEPPCO Southern - P22-PAL_005, dated 08/20/2010, incorrectly identified the year of construction of pipeline segments as 1990 - construction years were 1953-1955.
 - Map number F16_0180_E, dated 09/09/2010,
 - Incorrectly indicated that a valve existed on Line P22 near Benton, AR; and,
 - Did not indicate a 3,661-foot segment as an HCA. This segment was determined to be an HCA in 2004 by Bass Trigon, but the HCA data was not resident in the PODS database.

- A Line P74 main line valve located at approximately mile post (MP) 6.01 was not indicated on drawings TEPPCO Southern--P74--PAL_001 and _002 dated 08/20/2010.
- A Line P74 main line valve was indicated on drawing TEPPCO Southern--P74--PAL_009 dated 08/20/2010 at MP52-44+70. This valve had been previously removed and a valve no longer existed at this location.
- A Line P74 main line valve was indicated on drawing TEPPCO Southern--P74--PAL_015 dated 08/20/2010 at MP89-06+16. A valve did not exist at this location.
- A Line P2 main line valve was indicated at station 18378+67 (MP 348.08) on drawing TEPPCO ML-P2-PAL_107 dated 08/20/2010. Although a valve existed on Line P62 at this location, a valve did not exist on Line P2 at this location.
- A Line P2 main line valve located at approximately MP 441.04 was not indicated on drawing TEPPCO ML-P2-PAL_132 dated 08/20/2010.

4. § 195.452 Pipeline integrity management in high consequence areas.

... (g) *What is an information analysis?* In periodically evaluating the integrity of each pipeline segment (paragraph (j) of this section), an operator must analyze all available information about the integrity of the entire pipeline and the consequences of a failure. This information includes:

Enterprise did not follow its IMP process for performing the periodic evaluation of the integrity of its pipeline.

Enterprise's procedure *IMP SEC6-01 Information Analysis - Line Pipe* required Enterprise to perform an information analysis (IA) for its pipeline segments within 2 years of the completion of the integrity assessment. Four of the IAs the PHMSA inspectors reviewed during the inspection did not meet Enterprise's required 2-year timeframe. PHMSA later recognized that Enterprise had significantly reduced the backlog of IAs that had not been completed within 2 years of the integrity assessment, but as of August 25, 2010, there were still five backlogged IAs.

5. § 195.452 Pipeline integrity management in high consequence areas.

... (i) *What preventative and mitigative measures must an operator take to protect the high consequence area?*

... (4) *Emergency Flow Restricting Devices (EFRD)*. If an operator determines that an EFRD is needed on a pipeline segment to protect a high consequence area in the event of a hazardous liquid pipeline release, an operator must install the EFRD. In making this determination, an operator must, at least, consider the following factors—the swiftness of leak detection and pipeline shutdown capabilities, the type of commodity carried, the rate of potential leakage, the volume that can be released, topography or pipeline profile, the potential for ignition, proximity to power sources, location of nearest response personnel, specific terrain between the pipeline segment and the high consequence area, and benefits expected by reducing the spill size.

Enterprise excessively delayed its process to determine if EFRDs were needed on certain pipeline segments to protect high consequence areas in the event of a hazardous liquid pipeline release.

Enterprise's IMP procedure *Emergency Flow Restricting Devices (EFRD) Analysis Process, rev. 0* was initially approved on June 14, 2010. Based on data provided by Enterprise dated August 27, 2010, however, recommendations to perform evaluations for installing additional EFRDs on many pipeline segments dated back to 2007. The EFRD Recommendation Status remained open as of August 27, 2010.

For example, Enterprise's records showed recommendations were made for an EFRD review of Line P62 AID Segment 496, based on an October 1, 2007, information analysis. Yet, the scheduled completion date for the EFRD feasibility study for this AID was not until the 4th quarter of 2010. Moreover, once Enterprise completes the feasibility study and recommends installation of an EFRD, time is still required for installation. It was noted that all of the "open" recommended EFRD studies were scheduled for feasibility study completion by the end of the 4th quarter of 2010.

Under 49 United States Code, §60122, you are subject to a civil penalty not to exceed \$100,000 for each violation for each day the violation persists up to a maximum of \$1,000,000 for any related series of violations. We have reviewed the circumstances and supporting documents involved in this case, and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to correct the items identified in this letter. Failure to do so will result in Enterprise Products Operating LLC being subject to additional enforcement action.

No reply to this letter is required. If you choose to reply, in your correspondence please refer to **CPF 2-2012-5008W**. Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b).

Sincerely,



Wayne T. Lemoi
Director, Office of Pipeline Safety
PHMSA Southern Region